NOVEMBER/DECEMBER 2024

CEMB64A — BIOINOCULANTS TECHNOLOGY

Time : Three hours Maximum : 75 marks

SECTION A — (10 × 2 = 20 marks)

Answer ALL questions.

1. Abbreviate PGPR.
2. What is Bioinoculants?
3. Define *Frankia*.
4. Which selective media used for growth of *Rhizobium*?
5. Draw the structure of *Anabaena*.
6. Equation used for immobilization technique.
7. List out the phosphate solubilizing microbes.
8. What is known as phsophate solubilizers?
9. Name the type of mycorrhizae.
10. Define VAM.

SECTION B — (5 × 5 = 25 marks)

Answer ALL questions.

11. (a) Discuss about mechanism of PGPR in plant growth.

Or

(b) Illustrate the characterization and mass production of Azospirillum.

12. (a) Explain in detail about nitrogen fixation of *Rhizobium* in leguminous plant.

Or

(b) Write an elaborate note on role of actinorrhizal nodule formation in non-leguminous plants.

13. (a) Explain the mass cultivation of cyanobacteria for the use of biofertilizers.

Or

(b) Give a short note on benefits of *Azola* biofertilizers in improving crop yield and soil health.

14. (a) Write an essay on role of phosphate solubilizing microbes in improving soil fertility.

Or

(b) Write about inoculum production and field application of phosphate solubilizers.

15. (a) Explain about VA Mycorrhizae and its assessment in roots.

Or

(b) Describe the taxonomy and importance of mycorrhizae.

SECTION C — (3 × 10 = 30 marks)

Answer any THREE questions.

16. Write a brief notes on different types of biofertilizers and their role in enhancing soil fertility.

17. Discuss the isolation, characterization and significance of *Frankie*.

18. Explain the large-scale production of *Anabena* in agricultural field.

19. Brief notes on characterization and mass production of phosphate solubilizing microbes.

20. Explain in detail about field application of Ectomycorrhizae and VAM.

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